

WHAT IS CLAIMED IS:

1. A microstrip line comprising:

a ground conductor layer;

a dielectric layer formed on the ground conductor

5 layer; and

a linear conductor layer formed on the dielectric layer to have a linear configuration, the linear conductor layer having a wider portion in an upper part of a cross section thereof taken in a direction perpendicular to a direction in 10 which the linear conductor layer extends and a narrower portion in a lower part of the cross section, the narrower portion being smaller in width than the wider portion.

2. The microstrip line of claim 1, further comprising a substrate for holding the ground conductor layer, the 15 substrate being located under the ground conductor layer and composed of a dielectric material, wherein the dielectric layer has a dielectric constant higher than a dielectric constant of the substrate.

3. The microstrip line of claim 1, wherein the 20 dielectric layer contains a titanium oxide.

4. The microstrip line of claim 3, wherein the titanium oxide is a strontium titanate.

5. A method for fabricating a microstrip line, the method comprising the steps of:

25 forming a ground conductor layer on a substrate

composed of a dielectric material;

forming a dielectric layer on the ground conductor layer;

forming a mask pattern having a linear opening on the

5 dielectric layer;

depositing a layer forming a linear conductor layer on the mask pattern including the opening; and

10 patterning the linear-conductor-layer forming layer such that the linear-conductor-layer forming layer on the mask pattern has a width larger than a width of the opening.

6. An inductor element comprising a microstrip line composed of a ground conductor layer, a dielectric layer formed on the ground conductor layer, and a linear conductor layer formed on the dielectric layer to have a linear 15 configuration,

the linear conductor layer being formed in a spiral configuration in a plane parallel to the dielectric layer and having a wider portion in an upper part of a cross section thereof taken in a direction perpendicular to a direction in 20 which the linear conductor layer extends and a narrower portion in a lower part of the cross section, the narrower portion being smaller in width than the wider portion.

7. An RF semiconductor device comprising:

an active element formed in a substrate; and

25 a microstrip line formed on the substrate to propagate

input/output signals to and from the active element,
the microstrip line being composed of a ground
conductor layer formed on the substrate, a dielectric layer
formed on the ground conductor layer, and a linear conductor
5 layer formed on the dielectric layer to have a linear
configuration,

the linear conductor layer having a wider portion in an
upper part of a cross section thereof taken in a direction
perpendicular to a direction in which the linear conductor
10 layer extends and a narrower portion in a lower part of the
cross section, the narrower portion being smaller in width
than the wider portion.